

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims**

Claim 1 (currently amended): A device for correcting visual defects of an eye comprising:

a coherent light source,

a wavefront analyzer device for analyzing a wavefront of an optical path in the eye,

a topography analyzer unit for analyzing the surface of the eye,

a control unit configured to process signals of the topography analyzer unit and the wavefront analyzer device and to calculate a plurality of shot positions using the signals, and

a beam modification device configured to shape and deflect a beam of the coherent light source according to the plurality of calculated shot positions for processing an optical element;

~~—— a wavefront analyzer device for analyzing a wavefront of an optical path in the eye, and~~

~~—— a topography analyzer unit for analyzing the surface of the eye.~~

Claim 2 (cancelled)

Claim 3 (currently amended): The device as recited in claim 1, ~~further comprising~~ wherein the control unit for at least one of processing signals of the wavefront analyzer unit; processing signals of the topography analyzer unit; is configured for controlling at least one of the coherent light source; and for controlling the beam modification device.

Claim 4 (previously presented): The device as recited in claim 1, wherein the optical element includes at least one of an intraocular lens; an eye lens; the cornea of the eye; a contact lens; an implantable contact lens (ICL); and a spectacle lens.

Claim 5 (previously presented): The device as recited in claim 1, wherein the coherent light source is a laser.

Claim 6 (currently amended): The device as recited in claim 3, wherein the control unit is designed in such a manner that the ~~analysis of the optical path in the eye and/or the analysis of the surface of the eye~~ processing of the signals can be carried out virtually simultaneously with a processing of the optical element via the beam of the coherent light source.

Claim 7 (currently amended): A method for correcting visual defects of an eye comprising:  
determining an optical path of the eye via a wavefront analysis;  
analyzing a topography of the eye; and  
calculating a plurality of shot positions using a control unit using data obtained from the wavefront analysis; and  
shaping and deflecting a beam according to the plurality of calculated shot positions  
using a beam modification device so as to process an ideal optical system which would result in a correction of the visual defects of the eye.

Claim 8 (cancelled)

Claim 9 (currently amended): The method as recited in claim 7, wherein the ideal optical system is provided as a function of data obtained from ~~at least one of the wavefront analysis and the topography analysis~~ wherein the shaping and deflecting is performed virtually simultaneously with at least one of the determining and the analyzing.

Claim 10 (currently amended): The method as recited in claim 7, ~~further comprising wherein the calculating of the plurality of shot positions for manufacturing the ideal optical system is performed~~ as a function of data obtained from ~~at least one of the wavefront analysis and the topography analysis.~~

Claim 11 (previously presented): The method as recited in claim 7 further comprising reshaping the old optical system of the eye into the calculated ideal optical system.

Claim 12 (previously presented): The method as recited in claim 7, wherein the optical system includes at least one of the eye lens; an intraocular lens; the cornea of the eye; a contact lens; an ICL; and at least one spectacle lens.

Claim 13 (previously presented): An ideal optical system manufactured according to the method of claim 7 wherein the optical system includes elements made of materials which are suitable for at least one of implantation; adhesion; and ablation.

Claim 14 (previously presented): The ideal optical system as recited in claim 13 wherein the optical system includes elements having refractive and/or diffractive structures.

Claim 15 (cancelled)

Claim 16 (previously presented): The method as recited in claim 7 further including completely correcting a visual defect of an eye.

Claim 17 (previously presented): The device as recited in claim 5 wherein the laser is a spot scanning excimer laser.

Claim 18 (previously presented): The system as recited in claim 13 wherein the materials are plastic or glass.

Claim 19 (previously presented): An ideal optical system manufactured using one of the devices according to claim 1 wherein the optical system includes elements made of materials which are suitable for at least one of implantation; adhesion; and ablation.

Claim 20 (previously presented): The system as recited in claim 19 wherein the materials are plastic or glass.

Claim 21 (currently amended): A device for correcting visual defects of an eye comprising:  
a light source,

a topography analyzer unit for analyzing the surface of the eye;  
a wavefront analyzer device for analyzing a wavefront of an optical path in the eye;  
a control unit configured to process signals of the wavefront analyzer device and to  
calculate a plurality of shot positions using the signals;  
a beam modification device configured to shape and deflect a beam of the light source  
according to the plurality of calculated shot positions for processing at least one of an intraocular  
lens and an implantable contact lens;  
~~a topography analyzer unit for analyzing the surface of the eye; and~~  
~~a wavefront analyzer device for analyzing a wavefront of an optical path in the eye.~~

Claim 22 (cancelled)

Claim 23 (currently amended): A method for correcting visual defects of an eye comprising:  
determining an optical path of the eye via a wavefront analysis;  
analyzing a topography of the eye;  
calculating a plurality of shot positions for a beam of a light source needed to achieve an  
ideal optical system which would result in a correction of the visual defects of the eye, the  
calculating being performed using data from the wavefront analysis; and  
processing at least one of an intraocular lens and an implantable contact lens by  
deflecting the beam according to the plurality of calculated shot positions using a beam  
modification device so as to correct the visual defect.

Claim 24 (cancelled)

Claim 25 (currently amended): The device as recited in claim 21, ~~further comprising a wherein~~  
the control unit is configured for at least one of processing first signals of the wavefront analyzer  
unit; and processing second signals of the topography analyzer unit and wherein the calculating  
is performed using the first and second signals; for controlling the coherent light source; and for  
~~controlling the beam modification device.~~

Claim 26 (currently amended): The device as recited in claim 25, wherein the control unit is configured such that a processing of the ~~optical element~~ the intraocular lens or implantable contact lens via the beam of the ~~coherent~~ light source can be carried out virtually simultaneously with at least one of an analysis of the optical path in the eye and an analysis of the surface of the eye.

Claim 27 (previously presented): The method as recited in claim 23, wherein the processing is performed virtually simultaneously with at least one of the determining of the optical path of the eye and the analyzing of the topography of the eye.

Claim 28 (currently amended): A device for correcting visual defects of an eye comprising:  
a coherent light source,  
a beam modification device configured to shape and deflect a beam of the coherent light source according to the plurality of shot positions for processing an optical element; and  
a wavefront analyzer device emitting signals corresponding to a wavefront of an optical path in the eye, and  
a control unit processing the signals from the wavefront analyzer device so as to analyze the wavefront and to calculate the plurality of shot positions based on the wavefront analysis, and the control unit simultaneously controlling at least one of the beam modification device and the coherent light source so as to process the optical element.

Claim 29 (previously presented): The device as recited in claim 28, further comprising a topography analyzer unit for processing second signals corresponding to the surface of the eye, and wherein the control unit processes the second signals.

Claim 30 (previously presented): The device as recited in claim 28, wherein the optical element includes at least one of an intraocular lens; an eye lens; the cornea of the eye; a contact lens; an implantable contact lens (ICL); and a spectacle lens.

Claim 31 (previously presented): The device as recited in claim 28, wherein the coherent light source is a laser.

Claim 32 (currently amended): A method for correcting visual defects of an eye comprising:  
determining an optical path of the eye via a wavefront analysis;  
calculating an ideal optical system which would result in a correction of the visual defects of the eye;  
calculating, using the wavefront analysis, a plurality of shot positions needed for processing an optical element so as to achieve the ideal optical system; and  
simultaneously processing ~~an~~ the optical element using a beam modification device.

Claim 33 (previously presented): The method as recited in claim 32, further comprising analyzing a topography of the eye simultaneously with the processing.

Claim 34 (currently amended): The method as recited in claim 32, wherein the ideal optical system is provided as a function of data obtained from ~~at least one of~~ the wavefront analysis and the topography analysis.

Claim 35 (currently amended): The method as recited in claim ~~33~~ 32, ~~further comprising wherein the calculating of the plurality of shot positions for manufacturing the ideal optical system is performed~~ as a function of data obtained from ~~at least one of~~ the wavefront analysis and the topography analysis.

Claim 36 (previously presented): The method as recited in claim 32 further comprising reshaping the old optical system of the eye into the calculated ideal optical system.

Claim 37 (previously presented): The method as recited in claim 32, wherein the optical system includes at least one of the eye lens; an intraocular lens; the cornea of the eye; a contact lens; an ICL; and at least one spectacle lens.